Appendix I: Tennessee Standards for Computer Technology: Literacy and Usage[1]

Grades K-2

Standard	Learning Expectations	Performance Indicators	Sample Performance Task
Standard 1	Not applicable		
Standard 2 The student will analyze the social impact and explore ethical issues of technology usage.	The student will 1. Identify the ways technologies are used in our lives at home, school, play, and work. 2. Discusss the privacy issues relating to technology in our society.	The student is able to • list/discuss ways technology is used and the ways technology has helped and/or harmed society. (1,2)	Using pictures from magazines, newspapers, and/or drawings, student will make a poster of the different ways computers are used in our lives. The student will then display and explain his choices of pictures.
Standard 3 The student will develop a vocabulary to effectively communicate in a technological society.	The student will 1. Recognize and effectively apply menu vocabulary that is utilized with a specific software package. 2. Identify and define the basic parts of a computer.	The student is able to • communicate about technology through developmentally appropriate and accurate vocabulary as well as identify and define the basic parts of a computer.(1,2)	Using pictures of the various parts of a computer (e.g. disk drive, CPU, monitor, keyboard, mouse, etc.) and word cards, students match the words with the pictures and tell what each part does. Using a checklist to evaluate this task, proficiency would include student application of this knowledge to components of a real computer.
Standard 4 The student will demonstrate proficiency in the care and use of computer based technology.	The student will 1. Identify and effectively use input and output devices. 2. Demonstrate the proper sequence of turning on/off the equipment. 3. Accurately use the keyboard and special keys on a microcomputer. 4. List the rules for the proper care of computer equipment; hardware, software, and technology systems. 5. Demonstrate proper care of computer equipment. 6. Choose the proper steps and order for the solution of a task. 7. Follow the ordered steps and give the correct output for a simple task. 8. Recognize that a computer requires instructions in order to operate.	The student is able to • manipulate input (keyboards, mouse, remote, etc.) and output (printer and monitor) devices to successfully operate technological components with regard to proper care of technological equipment. (1,2,4,5,6) • use developmentally appropriate software to follow sequential directions and proper steps to solve a problem in a given simple task. (3,7,8) • recognize that the computer requires instructions in order to be used in our lives at home, school and work. (9,10)	Using a checklist, students will demonstrate how to turn on the computer, open a designated program, exit that program, and shut down the computer with teacher supervision. Proficiency of this task is met when all items on the list are completed.

[1] Adapted from http://www.state.tn.us/education/ci/cicomputered/cicomped12[35][68].htm

Grades 3-5

Standard	Learning Expectations	Performance Indicators	Sample Performance Task
Standard 1 The student will explore the history of technology in our society	The student will: 1. Identify historical aspects of technology and modern technology. 2. Forecast the future relating to computer development.	The students is able to • gather and organize information to create a database of historical events in technology development. (1,2,3,4) • use the database information to predict future aspects of technology.	Using paper and pencil and a standard ruler, the students construct a timeline depicting the major computer developments, as well as describe the early and modern methods of computing. Using a rubric to evaluate this task, proficiency would be designated by the given dates to be addressed and content area that is covered on the timeline.
Standard 2 The student will analyze the social impact and explore ethical issues of technology usage.	The student will: 1. Describe the ways technologies are used in our lives at home, school, play, and work. 2. Identify computer related jobs in the present and future. 3. Identify the positive and negative aspects of computer usage. 4. Recognize that copyright laws exist and have penalties when violated. 5. Exhibit ethical behavior in the use of computer technology.	The student is able to • describe the positive and negative impact of technology usage in our lives at home, school and play, as well as how computers are used in occupational settings.(1,2,3) • discuss basic issues related to responsible use of technology. (4,5) • describe personal consequences for the inappropriate or unethical use of technology.(4,5)	Using pencil and paper the students will create a web depicting how computers are used in the home, school, play and work. The web clearly shows how the computer can be used in each area of the student's life. The activity evaluation will be through teacher observation and whole group collaboration.
Standard 3 The student will develop a vocabulary to communicate effectively in a technological society.	The student will: 1. Review, learn and use the terms appropriate to the technology introduced	The student is able to communicate about technology through developmentally appropriate and accurately maintained vocabulary.(1)	Using word cards students label parts of a computer and describe what each part does. This is evaluated by using a checklist to determine the basic comprehension of each student.
Standard 4 The student will demonstrate proficiency in the care and use of computer based technology.	The student will: 1. Maintain the following learning expectations: a. Identify and effectively use input and output devices. b. Demonstrate the proper sequence of turning on/off the equipment. c. Follow the directions in a menu-driven program. d. Accurately use the keyboard and special keys on a microcomputer. e. List the rules for the proper care of computer hardware and software. f. Demonstrate proper care of computer equipment. g. Choose the proper steps and order for the solution of a problem. h. Follow the ordered steps and give the correct output for a simple task. i. Recognize that a computer requires instructions in order to operate. 2. Identify and effectively use input/output devices and peripherals. 3. Develop proper keyboarding techniques for keying all letters. 4. Recognize that computers use different computer languages to perform tasks.	The student is able to: • manipulate input (keyboards, mouse, remote, etc.) and output (printer and monitor) devices to successfully operate components with regard to proper care of technical equipment. (1,2,3) • recognize that computer technology	Students demonstrate the proper use of a keyboard, such as home row keys, proper hand positioning, etc. Proficiency can be determined using teacher observation, as well as the use of keyboarding software for individual and computer assessment.

Grades 6-8

Standard	Learning Expectations	Performance Indicators	Sample Performance Task
Standard 1 The student will explore the history of technology in our society.	The student will 1. Identify historical aspects of technology. 2. Describe the early and modern methods of computing. 3. List the major computing devices and the timeline of their development. 4. Project the future in relation to the use of computer based technology. 5. Compare the various generations of computers. 6. Identify various people involved in computing.	The student is able to • organize a database of historical events in technology and project future aspects of technology. (1,2,) • compare the various generations of computers and the people involved in developing those generations of computers. (5,6)	Using library and/or Internet resources students will construct a timeline (varied format) listing historical aspects of computing. The timeline describes early and modern methods of computing and identifies people involved in computing. Students compare and contrast generations of computers and project future technology trends. Using a multiple choice test to evaluate this task, proficiency would reflect 80% accuracy.
Standard 2 The student will analyze the social impact and explore ethical issues of technology usage	The student will 1. Discuss how and why computers are used in the following areas: a. homes and recreation b. business and industry c. medicine and law enforcement d. engineering e. transportation f. military defense g. weather prediction h. research and education i. libraries and information 2. Identify the availability of computer related jobs in new areas within the next five years. 3. Identify jobs available in the immediate community directly associated with computers. 4. Discuss the ethical and legal problems associated with computer technology. 5. Identify consequences of unethical computer usage.	The student is able to: • discuss how and why computers are used in the following areas: homes and recreation, business and industry, medicine and law enforcement, engineering, transportation, military defense, weather prediction, research and education, and libraries and information as the availability of computer related jobs become available in the immediate community. (1,2,3) • recognize the responsibilities as they relate to copyrighted software, shareware, freeware, and acceptable use of Internet resources. (3,4,5) • debate the various ethical and social implications of technology both present and future. (4,5)	During appropriate curricular activities students will verbally describe when and how technology is used in everyday life and occupations. Using observation, teachers will develop a rubric evaluating the behavior of the students as they use technology in content area lessons.
Standard 3 The student will develop a vocabulary to communicate effectively in a technological society.	The student will 1. Review and effectively use the terms appropriate to the lessons introduced.	The students is able to • Use the terms appropriate to the lessons the instructor has introduced. (1)	The student will use technology terms when referring to technology related tasks.
Standard 4 The student will demonstrate proficiency in the care and use of computer based technology	The student will 1. Explain how software is necessary to computer operation by being able to: a. Recognize that software refers to computer programs and includes operating systems, compilers, and user programs "applications." b. Recognize that a computer operates through instructions written in a programming language.	The student is able to • recognize that software (operating systems and applications) refers to sets of specific instructions (languages) that operate computer programs on desktop units or networks and uses an internal mechanism to change that code to binary messages of 0 and 1.(1,2) • identify an operating system as belonging to a specifically formatted computer.(1,3)	Using a selected piece of software student will demonstrate that a computer needs instructions from system software to operate applications. Students model a teacher demonstration of sequential instructions to print, sort, calculate and perform other functions. The student will also explain that a computer uses binary codes to implement functions. Proficiency is determined by

Standard	Learning Expectations	Performance Indicators	Sample Performance Task
	c. Recognize that computer programs are sets of sequential instructions which enable the computer to print, sort, calculate, and perform other functions. d. Recognize that a computer has an internal structure which allows a program language to be converted to binary code (0 and 1). e. Identify the need for data to be organized, or ordered, if it is to be useful. 2. Explain that data processing involves the transformation of data by means of predefined rules. 3. Identify an operating system as software that performs the file managing tasks of a computer such as loading programs and copying files. a. Recognize that various brands of computers require specific operating systems and software to operate. b. Recognize the uses of different types of networking to receive information from internal/external sources.	• identify the need for data to be organized if it is to be useful and data processing involves the transformation of data.(1) • demonstrate an understanding of concepts underlying hardware, software and connectivity, and practical applications to learning and problem solving. (1,4)	student utilization of software specific to the computer and the successful completion of assigned tasks as observed by the teacher.